

CLAIMS

What is claimed is:

1. A rotary flow inducing device, comprising:
a rotary flow inducing blade, and
a protection mechanism comprising a trigger to move the protection mechanism
between an operational flow configuration and a protective no-flow
configuration with respect to the rotary flow inducing blade.
2. The flow inducing device recited in claim 1, wherein the protection
mechanism comprises a collapsible wall blocking a flow path of the rotary flow inducing
blade in the protective no-flow configuration and retracted from the flow path in the
operational flow configuration.
3. The flow inducing device recited in claim 2, wherein the collapsible wall
comprises a plurality of folded portions alternately offset from one another.
4. The flow inducing device recited in claim 1, wherein the protection
mechanism comprises a motion suppression device adapted to suppress motion of the rotary
flow inducing blade in the protective no-flow configuration.
5. The flow inducing device recited in claim 4, wherein the motion suppression
device comprises a resilient brake mechanism.

6. A system, comprising:
a chassis having a receptacle;
a rotary flow inducing device movable between an inserted position in the receptacle
and a removed position from the receptacle, wherein the rotary flow inducing
device comprises a plurality of rotary flow inducing blades in a flow passage;
and
a blind mechanism coupled to the rotary flow inducing device, wherein the blind
mechanism has an open configuration freeing the flow passage in the inserted
position and a closed configuration blocking the flow passage in the removed
position. .
7. The system of claim 6, wherein the chassis comprises a rack mount electronics
system.
8. The system of claim 6, wherein the chassis comprises a computer system.
9. The system of claim 6, wherein the rotary flow inducing device comprises a
cooling fan.
10. The system of claim 6, wherein the blind mechanism comprises an actuator
that is engageable with a portion of the receptacle.
11. A system, comprising:
a chassis having a receptacle;

a rotary flow inducing device movable between an inserted position in the receptacle and a removed position from the receptacle, wherein the rotary flow inducing device comprises a plurality of rotary flow inducing blades in a flow passage;

a braking mechanism coupled to the rotary flow inducing device, wherein the braking mechanism has a free configuration permitting rotation of the plurality of rotary flow inducing blades in the inserted position and a braked configuration suppressing rotation of the plurality of rotary flow inducing blades in the removed position; and

an actuator coupled to the braking mechanism and adapted to change the braking mechanism from the free configuration to the braked configuration upon removal from the receptacle.

12. The system of claim 11, wherein the chassis comprises a rack mount electronics system.
13. The system of claim 11, wherein the chassis comprises a computer system.
14. The system of claim 11, wherein the rotary flow inducing device comprises a cooling fan.
15. The system of claim 11, wherein the braking mechanism comprises a stopping member engageable with the plurality of rotary flow inducing blades in the braked configuration.

16. The system of claim 11, wherein the braking mechanism comprises a stopping member engageable with a rotary hub supporting the plurality of rotary flow inducing blades in the braked configuration.

17. The system of claim 11, wherein the braking mechanism comprises an outer band disposed about the plurality of rotary flow inducing blades and constrictable onto the plurality of rotary flow inducing blades in the braked configuration.

18. A system, comprising:
means for blocking and unblocking a flow passage of a rotary flow inducing device having a plurality of rotary flow inducing blades disposed in the flow passage; and
means for actuating the means for blocking and unblocking upon movement of the rotary flow inducing device to a removed position from a receptacle and to an inserted position in the receptacle, respectively.

19. A system, comprising:
means for braking and freeing rotation of a plurality of rotary flow inducing blades of a rotary flow inducing device; and
means for actuating the means for braking and freeing upon movement of the rotary flow inducing device to a removed position from a receptacle and to an inserted position in the receptacle, respectively.

20. A method, comprising:
providing a rotary flow inducing device movable between an inserted position in a receptacle and a removed position from the receptacle, wherein the rotary flow

inducing device comprises a plurality of rotary flow inducing blades in a flow passage; and

providing a blind mechanism coupleable to the rotary flow inducing device, wherein the blind mechanism has an open configuration freeing the flow passage in the inserted position and a closed configuration obstructing the flow passage in the removed position.

21. The method of claim 20, wherein providing the rotary flow inducing device comprises mounting the rotary flow inducing device in the receptacle of an electronics chassis.

22. The method of claim 20, wherein providing the rotary flow inducing device comprises assembling a computer system having the rotary flow inducing device mounted in the receptacle of a computer chassis.

23. The method of claim 20, wherein providing the blind mechanism comprises coupling a collapsible blind structure along a wall of the rotary flow inducing device, such that the open configuration has the collapsible blind structure collapsed at an upper portion of the wall.

24. The method of claim 20, wherein providing the blind mechanism comprises providing a blind actuator to move the blind mechanism between the closed configuration and the open configuration upon removal from the receptacle and upon insertion into the receptacle, respectively.

25. A method, comprising:

providing a rotary flow inducing device movable between an inserted position in a receptacle and a removed position from the receptacle, wherein the rotary flow inducing device comprises a plurality of rotary flow inducing blades in a flow passage;

providing a braking mechanism coupleable to the rotary flow inducing device, wherein the braking mechanism has a free configuration permitting rotation of the plurality of rotary flow inducing blades in the inserted position and a braked configuration suppressing rotation of the plurality of rotary flow inducing blades in the removed position; and

providing an actuator coupled to the braking mechanism and adapted to change the braking mechanism from the free configuration to the braked configuration upon removal from the receptacle.

26. The method of claim 25, wherein providing the rotary flow inducing device comprises mounting the rotary flow inducing device in the receptacle of an electronics chassis.

27. The method of claim 25, wherein providing the rotary flow inducing device comprises assembling a computer system having the rotary flow inducing device mounted in the receptacle of a computer chassis.

28. The method of claim 25, wherein providing the braking mechanism comprises providing a stopping member engageable with the plurality of rotary flow inducing blades in the braked configuration.

29. The method of claim 25, wherein providing the braking mechanism comprises providing a stopping member engageable with a rotary hub supporting the plurality of rotary flow inducing blades in the braked configuration.

30. The method of claim 25, wherein providing the braking mechanism comprises providing an outer band disposed about the plurality of rotary flow inducing blades and constrictable onto the plurality of rotary flow inducing blades in the braked configuration.

31. A system, comprising:

a fan adapted for insertion into and removal from an electronics chassis during operation of the fan;

a blind mechanism coupled to the fan, wherein the blind mechanism has an open configuration freeing flow of the fan in the inserted position and a closed configuration blocking flow of the fan in the removed position.

32. The system of claim 31, comprising a computer system having the fan mounted in a receptacle of the electronics chassis.

33. The system of claim 31, wherein the blind mechanism comprises a blind actuator adapted to move a collapsible blind structure between the closed configuration and

the open configuration upon removal from the receptacle and upon insertion into the receptacle, respectively.

34. A system, comprising:

a fan adapted for insertion into and removal from an electronics chassis during operation of the fan, wherein the fan comprises a plurality of fan blades;
a braking mechanism coupled to the fan, wherein the braking mechanism has a free configuration permitting movement of the fan blades in the inserted position and a braked configuration suppressing movement of the fan blades in the removed position; and
an actuator coupled to the braking mechanism and adapted to change the braking mechanism from the free configuration to the braked configuration upon removal from the receptacle.

35. The system of claim 34, comprising a computer system having the fan mounted in a receptacle of the electronics chassis.

36. The system of claim 34, wherein the braking mechanism comprises a stopping member engageable with the fan blades in the braked configuration.

37. The system of claim 34, wherein the braking mechanism comprises a stopping member engageable with a rotary hub supporting the fan blades in the braked configuration.

38. The system of claim 37, wherein the rotary hub comprises a plurality of protruding tabs engageable with the stopping member in the braked configuration.

39. The system of claim 34, wherein the braking mechanism comprises an outer band disposed about the fan blades and constrictable onto the fan blades in the braked configuration.

40. The system of claim 39, wherein the braking mechanism comprises at least one finger grip coupled to the outer band and movable to constrict the outer band.